NOTICE OF ALLOWANCE AND FEE(S) DUE

45840	7590	04/09/2008

WOLF GREENFIELD (Microsoft Corporation)
C/O WOLF, GREENFIELD & SACKS, P.C.
600 ATLANTIC AVENUE
BOSTON, MA 02210-2206

EXAMINER
LEMMA, SAMSON B

ART UNIT	PAPER NUMBER
2132	

DATE MAILED: 04/09/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,831	11/26/2003	Brian D. Swander	M1103.70170US00	9365

TITLE OF INVENTION: METHOD FOR INDEXING A PLURALITY OF POLICY FILTERS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1440	$300	$0	$1740	07/09/2008

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

Complete and send this form, together with applicable fee(s), to: <u>Mail</u>   Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or <u>Fax</u>   (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

45840   7590   04/09/2008

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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)
_____ (Signature)
_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,831	11/26/2003	Brian D. Swander	M1103.70170US00	9365

TITLE OF INVENTION: METHOD FOR INDEXING A PLURALITY OF POLICY FILTERS

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nonprovisional	NO	$1440	$300	$0	$1740	07/09/2008

EXAMINER	ART UNIT	CLASS-SUBCLASS
LEMMA, SAMSON B	2132	726-011000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE   (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) :   ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:
☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.   ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____   Date _____

Typed or printed name _____   Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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EXAMINER
LEMMA, SAMSON B

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DATE MAILED: 04/09/2008

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 956 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 956 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

	Application No.	Applicant(s)
Notice of Allowability	10/722,831	SWANDER, BRIAN D.
	Examiner	Art Unit
	Samson B. Lemma	2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendment filed on 12/7/07*.

2. ☒ The allowed claim(s) is/are *1-26*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the

            International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

        Paper No./Mail Date _____.

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08),
    Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit
    of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413),
    Paper No./Mail Date _____ .

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____.

DETAILED ACTION

1.   This office action is in reply to an amendment filed on December
07, 2007.

2.   **Claims 1-26** are pending the application, with claims **1, 11, 16,
and 21** being independent. Claims 16-26 have been amended.

3.   As the result of amendment made to claims 16-26, the 101
rejection set forth in the pervious office action is overcome and the
rejection is withdrawn.

4.   As the result of amendment made to independent claims 16 and
21, the 112 rejection set forth in the pervious office action is also
overcome and the rejection is withdrawn.

Priority

5.   This application does not claim priority of an application.
Therefore, the effective filling data for the subject matter defined in
the pending claims of this application is 11/26/2003

Allowable Subject Matter

6.   **Claims 1-26** are allowed.

7.   The following is an examiner's statement of reasons for allowance:

8.   Referring to **the independent claims 1, 11, 16 and 21** the art
on the record, namely Goldberg discloses some of the limitation
of the claims/the general subject matter of the invention.

For instance Referring to independent claims 1, 11, 16 and 21

Goldberg **discloses a method for dynamically creating and maintaining a set of indices in a computer, wherein the indices identify a plurality of filters defining a network policy and wherein the indices are used by a firewall to identify a matching filter, comprising: [Abstract, figure 6, paragraph 0015-0017; 0042, 0048-0049 and 0071-0073 and 0082]** (On abstract the following has been disclosed. *"A novel and useful* ***dynamic packet filter*** *that can be incorporated in a hardware based* ***firewall suitable*** *for use in portable computing devices such as cellular telephones and wireless connected PDAs that are adapted to connect to the Internet. The invention performs* ***dynamic packet filtering on packets received over an input packet stream****. The dynamic* ***filter checks dynamic protocol behavior using information extracted from the received packet****. Sessions are created and stored in a session database to track the state of communications between the source and destination. Recognition of a session is accelerated by use of a hash table to quickly determine the corresponding session record in the session database. Session related data is read from the session database and the received packet is checked against* ***a set of rules for determination of whether to allow or deny the packet.****" Furthermore Figure 6, described how the hashing technique of determining the sessions associated input packets." And on*

paragraph 0073, the following has been disclosed. "Upon receipt of a packet, the socket 100 is input to the hash calculator 102 which functions to generate and output a hash result 104. **The hash result is used as the index to the hash table 106 that comprises a plurality of entries 108 each containing a hash pointer.** The hash pointer points to a linked list of sessions 110 in the session database. Each session record in the session database comprises previous 114 and next pointers 112 thus implementing a doubly linked list. If a hit on the socket occurs, each session in the linked list must be checked for a match with the socket of the received packet." Note the hash pointer meet the limitation of the **"indices in a computer, wherein the indices identify a plurality of filters defining a network policy and wherein the indices are used by a firewall to identify a matching filter."** And the following which is disclosed on paragraph 0015, "the present invention a dynamic filter for filtering an input packet stream comprising a session database adapted to store session related data for a plurality of sessions, each session corresponding to a socket, a session recognition module adapted to search the session database for a session whose associated socket matches that of a received packet, a session management module adapted to maintain the session database including adding, deleting and modifying sessions in the session database and a main filter

module operative to track a connection state of the session

corresponding to a receive packet and checking the **connection

state against a <u>plurality</u> of rules to determine whether to allow

or deny the received packet**" meets the limitation recited as

**"wherein the indices identify a plurality of filters defining a

network policy and wherein the indices are used by a firewall

to identify a matching filter."**)

● **Creating a first index conforming to a first index type;

[Paragraph 0073; figure 6, see "Session 1"]** *(Upon receipt of a

packet, the socket 100 is input to the hash calculator 102 which

functions to generate and output a* **hash result 104. The hash

result is used as the index to the hash table** *106 that comprises

a plurality of entries 108 each containing a hash pointer.)*

● **Identifying, in the first index, a first set of filters, each

filter in the first set of filters specifying network packets

subject to the network policy; [Figure 6 and Paragraph 0016,**

*"checking the connection state against a <u>plurality</u> of rules to

determine whether to allow or deny the received packet")*

● **Maintaining statistics including a selected criteria and a

corresponding value, wherein the value identifies a number of

filters from the first set of filters meeting the selected criteria;**

[Paragraph 0104] (Field 30 stores the timestamp used to age a session. Time is represented in 16 bits and stored as a time difference or delta in accordance with the particular protocol. Periodically, the CPU instructs the session management module to perform session aging whereby sessions that have aged out are closed.)

- **Determining that the corresponding value exceeds a threshold value; [Claim 8, 20 and 33]** *(The method, further comprising the step of removing sessions whose associated timestamps have exceeded a predetermined <u>threshold</u>.)*

- **Creating a second index conforming to a second index type; identifying, in the second index, a second set of filters, wherein the second set of filters are a subset of the first set of filters;** [Paragraph 0014 and figure 6; See, "Session 2" in a linked list shown on figure 6] *(As it is shown on dependent claim 2, and the applicant's specification the* "second index type is a linked list." Such linked list is disclosed on paragraph 0073 and figure 6] (On paragraph 0073, the following has been disclosed. *"Upon receipt of a packet, the socket 100 is input to the hash calculator 102 which functions to generate and output a hash result 104. The hash result is used as the index to the hash table 106 that comprises a plurality of entries 108 each containing a hash pointer. The hash pointer*

*points to a linked list of sessions 110 in the session database. Each session record in the session database comprises previous 114 and next pointers 112 thus implementing a doubly linked list. If a hit on the socket occurs, **each session in the linked list must be checked for a match** with the socket of the received packet". And on paragraph 0014 the following has been disclosed.*

*"There is also provided in accordance with the present invention a method of monitoring the state of a communications <u>session,</u> the method comprising the steps of establishing a <u>session</u> database adapted to store <u>session</u> related data for **a plurality of sessions, each <u>session</u>** corresponding to a socket, recognizing a <u>session</u> in accordance with a first hash calculation on the socket associated with a received packet, recognizing a hole <u>session in accordance with a second</u> hash calculation on a partial socket associated with the received packet, reading <u>session</u> data from the <u>session</u> database, the <u>session</u> data associated with either a recognized <u>session</u> or a recognized hole <u>session,</u> tracking a connection state of the <u>session</u> and checking the state against a plurality of rules to determine whether to allow or deny the received packet and writing updated <u>session</u> data back into the <u>session</u> database.") **and**

- **Removing identification of the subset of filters from the first index. [Claim 8, 20 and 33]** *(The method, further comprising*

*the step of **removing sessions** whose associated timestamps have exceeded a predetermined <u>threshold</u>.)*

However as applicant's representative persuasively argued, the prior art on the record namely **Goldberg**, does not disclose/teach some elements of the limitation of the independent claims. For instance Goldberg's discloses a timestamp field and corresponding aging process however does not teach or suggest **"maintaining statistics including a selected criteria and a corresponding value wherein the value identifies a number of filters from the first set of filters meeting the selected criteria"** and **"determining that the corresponding value exceeds a threshold value."** Furthermore Goldberg' s other record **field of session database does not contain such a value.**

None of the prior art of record taken singularly or in combination teaches or suggests a method for dynamically creating and maintaining a set of indices in a computer, wherein the indices identify a plurality of filters defining a network policy and wherein the indices are used by a firewall to identify a matching filter, comprising **the above limitation** with the combination of other limitation recited in respective independent claims 1 and 16. Furthermore Goldberg does not disclose some of the limitation recited on independent claims 11 and 21.

For the reasons provided above, the independent claims **1, 11, 16, and 21** are found to be novel and are allowed.

9.   **The dependent claims which are dependent on the independent claims 1, 11, 16, and 21** being further limiting to the independent claims, definite and enabled by the specification are also allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submission should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

10.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.(See PTO-Form 892).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samson B Lemma whose telephone number is 571-272-3806. The examiner can normally be reached on Monday-Friday (8:00 am --4: 30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BARRON JR GILBERTO can be reached on. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/S. B. L./
Samson B Lemma
Examiner, Art Unit 2132
03/05/2008

/Gilberto Barron Jr/
Supervisory Patent Examiner, Art Unit 2132